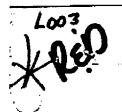
(NASA-CR-192431) DEBRIS INDUCED ARCING Final Technical Report No. 4, 13 Sep. - 12 Dec. 1991 (Auburn Univ.) 1 p

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TECHNICAL REPORT AUBURN UNIVERSITY AUBURN UNIVERSITY, ALABAMA 36849

CONTRACTORS' NAME: AUBURN UNIVERSITY
CONTRACTORS PERFORMANCE ADDRESS: SPACE POWER INSTITUTE
231 LEACH CENTER, AUBURN UNIVERSITY, AL 36849
CONTRACT / GRANT NUMBER: NAGS-39131 DELIVERY ORDER NO. 2
AWARD AMOUNT: 1 PERIOD OF PERFORMANCE: 3 MONTHS - EFFECTIVE
AWARD DATE OF DELIVERY ORDER: SEPTEMBER 13, 1991 - DECEMBER 12, 1991
CONTRACTING OFFICER: ELAINE HAMNER
COTR: Principal: L. J. Smith - Alternate: Jason Vanghn
REPORTING PERIOD:FINAL REPORT
DATE OF SUBMISSION: 8/12/92 (REPORT NUMBER 4)
PROGRAM TITLE: "DEBRIS INDUCED ARCING"
REMARKS: FINAL TECHNICAL REPORT
THE PURPOSE OF THESE EXPERIMENTS WERE TO DETERMINE THE THRESHOLD FOR DEBRIS INDUCED ARCHING IN A SPACE PLASMA FOR A BODY WITH A NEGATIVE CHARGE AND

THE PURPOSE OF THESE EXPERIMENTS WERE TO DETERMINE THE THRESHOLD FOR DEBRIS INDUCED ARCHING IN A SPACE PLASMA FOR A BODY WITH A NEGATIVE CHARGE AND CAPACITANCE SIMILAR TO THAT CALCULATED FOR SPACE STATIONS. NUMEROUS EXPERIMENTS TO ESTABLISH PLASMA PARAMETERS AND EXPERIMENTAL CONFIGURATION WERE CONDUCTED. WHEN AU AND MARSHALL WERE SATISFIED WITH THE EXPERIMENTAL PROTOCOL, THE FINAL EXPERIMENTS WERE CONDUCTED AT MARSHALLS DIRECTIONS AND THE RESULTS REPORTED BY TECHNICAL BRIEF AND LABNOTEBOOK TO THE NASA MARSHALL STAFF SCIENTISTS.

THE RESULTS ESTABLISHED A BREAKDOWN THRESHOLD ON THE ORDER OF -75V FOR OUR CONFIGURATION.

PRINCIPAL INVESTIGATOR:

DR. M. FRANK ROSE

SPACE POWER INSTITUTE